

## 1 CLAIMS:

1. A massaging apparatus comprising:  
a massage surface; and

5 at least one massaging member moveable along a support structure, said support structure being moveable towards and away from said massage surface.

10 2. The massaging apparatus as in claim 1, in which said massaging apparatus includes an interior and an exterior, said massage surface forms an exterior surface of a massaging panel, and said support structure is disposed within said interior of said massaging apparatus and is capable of achieving at least one massage position in which said at least one massaging member contacts an opposed interior surface of said massaging panel, and at least one retracted position in which said at least one massaging member does not contact said massaging panel.

15 3. The massaging apparatus as in claim 1, in which said support structure is pivotally moveable towards and away from said massage surface.

20 4. The massaging apparatus as in claim 1, further comprising a bracket disposed in fixed position with respect to said massage surface and in which said support structure is coupled to said bracket and moveable with respect to said bracket.

25 5. The massaging apparatus as in claim 4, in which said bracket is generally planar and peripherally surrounds and is pivotally coupled to said support structure, and said support structure is obliquely moveable with respect to said bracket.

30 6. The massaging apparatus as in claim 4, in which said massaging apparatus includes an interior and an exterior and said bracket is disposed within said interior.

35 7. The massaging apparatus as in claim 1, in which said massage surface is included as the back part of a chair and is adapted for a user's back to rest against, and said support structure including said at least one massaging member, is disposed within said chair.

- 1 8. The massaging apparatus in claim 1, in which said massaging member is rotationally moveable along said support structure.
9. The massaging apparatus in claim 8, in which said massaging member is  
5 partially discoid in shape.
10. The massaging apparatus in claim 8, in which said massaging member is further capable of oscillatory motion.
- 10 11. The massaging apparatus in claim 1, in which said support structure includes a generally planar portion along which said at least one massaging member moves, and said support structure is pivotally moveable with respect to said massage surface.
12. The massaging apparatus in claim 1, in which said massage surface and said  
15 support structure are each oriented generally vertically, and said at least one massaging member moves vertically along said support structure.
13. The massaging apparatus in claim 12, in which said support structure includes a top and a bottom, said top being hingedly attached to said massaging apparatus and  
20 said bottom being moveable towards and away from said massaging surface.
14. The massaging apparatus in claim 1, further comprising a handle capable of moving said support structure to a plurality of positions.
- 25 15. The massaging apparatus in claim 14, further comprising a position lock for locking said handle into a plurality of handle positions corresponding to said plurality of positions of said support structure.
16. The massaging apparatus in claim 14, in which moving said handle causes a  
30 shaft to rotate, said shaft coupled to said support structure by a plurality of pivotally coupled links.
17. The massaging apparatus in claim 14, in which moving said handle causes a cam shaft to rotate thereby causing a cam disposed on said cam shaft to rotate, said  
35 cam contacting and moving said support structure.

1 18. The massaging apparatus in claim 14, in which at least some of said plurality of positions include said at least one massaging member being in contact with an interior surface of a massaging panel, the opposed exterior surface thereof forming said massage surface and being adapted for a user's body part to rest against.

5 19. The massaging apparatus in claim 1, further comprising a motor capable of moving said support structure to a plurality of massage positions and at least one retracted position.

10 20. The massaging apparatus in claim 19, in which said motor is capable of moving said support structure in a smooth fashion.

15 21. The massaging apparatus in claim 19, in which said motor is capable of causing a shaft to rotate, said shaft coupled to said support structure by a plurality of pivotally coupled links.

20 22. The massaging apparatus in claim 19, in which said motor causes a cam shaft to rotate thereby causing a cam disposed on said cam shaft to rotate, said cam contacting said support structure.

23. The massaging apparatus in claim 19, further comprising means for programming said motor.

25 24. The massaging apparatus as in claim 23, in which said means for programming said motor includes means for programming a massaging routine including massaging while said support structure is in each of said plurality of massage positions.

30 25. The massaging apparatus as in claim 1, further comprising a carriage assembly and at least one guide rail affixed to said support structure, said guide rail configured for receipt of at least one guide wheel, said guide wheel adapted for rolling within said guide rail and being rotatably attached to said carriage assembly,

35 said carriage assembly being translationally coupled to said guide rails by said guide wheels, and including said at least one massaging member and means for driving said guide wheels, and

1           said carriage assembly being capable of translating axially along said guide rails.

26.    The massaging apparatus in claim 25, in which said carriage assembly further  
includes a transverse shaft rotationally coupled thereto and means for causing said  
5   transverse shaft to rotate about its axis, and said massaging member is coupled to said  
transverse shaft.

27.    The massaging apparatus in claim 26, in which said massaging member is  
eccentrically and obliquely coupled to said transverse shaft, and includes a partially  
10   discoid lobe.

28.    The massaging apparatus as in claim 1, wherein said support structure includes  
a generally planar portion along which said at least one massaging member is  
moveable.

29.    The massaging apparatus as in claim 1, further comprising  
at least one guide rail affixed to said support structure, said guide rail including  
a first raceway and a second opposing raceway, and  
a carriage assembly including at least one rotatably attached guide wheel and  
20   at least one biasing member acting in opposition to said guide wheel, said guide wheel  
being adapted to travel within said first raceway, thereby coupling said carriage  
assembly to said guide rail, and said biasing member being adapted to bear against  
said second raceway, wherein force applied by said biasing member centers said guide  
wheel within said first raceway,

25           said carriage assembly including said at least one massaging member and  
means for driving said guide wheels, such that said carriage assembly translates axially  
along said guide rails.

30.    A massaging apparatus comprising a chair including a back section having a  
30   receiving panel for a user's back to rest against,

a massaging member moveable along a support structure disposed within said  
back section, said support structure capable of moving with respect to said receiving  
panel and achieving a plurality of deployed positions in which said massaging member  
is in contact with an interior surface of said receiving panel and at least one retracted  
35   position in which said massaging member is not in contact with said receiving panel.

1 31. The massaging apparatus as in claim 30, in which said support structure is pivotally moveable within said back section.

5 32. The massaging apparatus as in claim 30, in which said support structure is coupled to a generally planar bracket which peripherally surrounds said support structure, and said support structure is pivotally moveable with respect to said bracket.

33. The massaging apparatus as in claim 30<sup>32</sup>, in which said bracket is oriented generally vertically, and said support structure is hinged to said bracket near the top of said bracket, and is free to swing with respect to said bracket at the bottom of said bracket.

34. The massaging apparatus as in claim 30, wherein said chair comprises a recliner.

15 35. The massaging apparatus as in claim 30<sup>32</sup>, in which said back section includes a frame therein and in which said bracket is integrally formed as a part of said frame and is composed of wood.

20 36. The massaging apparatus in claim 30, in which said support structure is oriented generally vertically and said massaging member is capable of motion along a vertical direction.

25 37. The massaging apparatus in claim 30, further comprising a carriage assembly capable of translational movement along said support structure and including means for driving said massaging member.

38. A massaging apparatus comprising a massaging device disposed within a back portion of a chair, including:

30 a chair having a back portion and a receiving panel for a user's back to rest against an exterior surface thereof;

at least one guide rail affixed to a support structure, said guide rail including a first raceway having a generally V-shaped cross-section and a second opposing raceway spaced apart from said first raceway, parallel to the plane of movement of a carriage assembly;

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1        said carriage assembly including at least one rotatably attached guide wheel and  
 at least one biasing member acting in opposition to said guide wheel, said guide wheel  
 being adapted to travel within said first raceway, thereby coupling said carriage  
 assembly to said guide rail, and said biasing member being adapted to bear against  
 5        said second raceway, wherein force applied by said biasing member centers said guide  
 wheel within said first raceway;

      said carriage assembly further including a massaging member and means for  
 driving said guide wheels, wherein said carriage assembly translates axially along said  
 guide rails; and

10        said support structure capable of being displaced towards and away from said  
 receiving panel.

39.    The massaging apparatus of claim 38, in which said support structure is coupled  
 to a bracket fixed into position within said back portion and said support structure is  
 15        capable of oblique movement with respect to said bracket.

40.    The massaging apparatus of claim 38, in which said support structure is capable  
 of achieving a first position in which said massaging member contacts an interior  
 surface of said receiving panel and a second position in which said massaging member  
 20        does not contact said interior surface of the receiving panel.

41.    A massaging apparatus for use in a chair, the apparatus comprising:  
 a chair having a back section and including a receiving panel for a user's back  
 to rest against an exterior surface thereof;  
 25        a frame fixedly positioned within said back of said chair;  
 a support structure coupled to said frame and capable of forward and backward  
 motion relative to said receiving panel;

      a transverse shaft rotationally coupled to a portion of said support structure and  
 a means for causing said transverse shaft to rotate about its longitudinal axis;  
 30        said transverse shaft including at least one massaging member, wherein said  
 massaging member is obliquely and eccentrically coupled to said transverse shaft and  
 is capable of freewheeling about said shaft;

      said massaging member including a means for coupling with a retainer; and  
 said retainer being fixed to a portion of said apparatus and coupled to said  
 35        massaging member, so that upon rotation of said transverse shaft, said retainer

1 prevents said massaging member from rotating, wherein said obliquely and eccentrically  
mounted massaging member is constrained to move with a sideways oscillating motion.

42. The massaging apparatus of claim 41, wherein said frame is oriented generally  
5 vertically, said frame peripherally surrounds said support structure, and said support  
structure is pivotally coupled to said frame.

43. A chair-type massaging apparatus comprising a massaging device disposed  
within a portion of said apparatus, said massaging device including:

10 a frame attached within a back portion of a chair, said back portion including a  
receiving panel for a user's back to rest against an exterior surface thereof;

at least one guide rail affixed to a support structure, said guide rail including at  
least a first raceway;

15 a carriage assembly including at least one rotatably attached guide wheel, said  
guide wheel being adapted to travel within said first raceway thereby coupling said  
carriage assembly to said guide rail; and

said carriage assembly further including a massaging member and means for  
driving said guide wheels, wherein said carriage assembly translates axially along said  
guide rails,

20 wherein said support structure is pivotally attached to said frame and capable of  
being positioned in a plurality of positions various distances from said receiving panel.

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